

FINAL REPORT

MEASURES Project

Developing Consistency in EM&V Approaches and Emissions Reduction Calculations for Energy Savings Performance Contracting (ESPC) Programs

FY2014 SEP Competitive Grant DE-EE0006891

Term of Project: January 1, 2015 – December 31, 2016

Project Partners:

Virginia Department of Mines, Minerals and Energy (DMME)
Georgia Environmental Financing Authority (GEFA)
Kentucky Department of Energy Development and Independence (DEDI)
National Association of State Energy Officials (NASEO)
National Association of Energy Service Companies (NAESCO)
National Association of Clean Air Agencies (NACAA)
Southeast Energy Efficiency Alliance (SEEA)
Clean Energy Solutions, Inc. (CESI)

December 31, 2016

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Introduction

Georgia, Kentucky, and Virginia have developed statewide ESPC programs over the past few years that continue to grow and impact significant portions of state/local government and MUSH markets in the respective states. However, the states' EM&V protocols are diverse and currently lack uniform and consistent methods to track ESPC project data. Additionally, the states lack systems to track non-state ESPC projects. Furthermore, these three states lack large scale ratepayer-funded energy efficiency programs. As they analyzed in early 2015 the EPA's proposed 111(d) rule and considered compliance options, they realized they would benefit from the potential inclusion of avoided CO₂ emissions from ESPC projects in state compliance plans. However, no state had tried to determine an appropriate approach to integrating emissions reduction estimates into EM&V processes. If such a protocol could be developed, it would help facilitate the inclusion of ESPC projects in state 111(d) compliance plans and potentially result in significant increases in investment by states in ESPC, especially those with limited energy efficiency compliance options (i.e., those that lack an energy efficiency resource standard). Designing and implementing these systems would allow for better tracking of data; streamlined project performance analysis and reporting; and better understanding of project benchmarks.

In order to address these issues, the three states submitted a proposal to the U.S. Department of Energy under its FY2014 SEP Competitive application process. The Virginia Department of Mines, Minerals and Energy (DMME) was awarded \$498,249 over a two-year period (January 1, 2015 – December 31, 2016) under DE-EE0006891 to manage this cooperative agreement.

The three overarching goals of this project were:

1. Convene the three states' Energy Offices, air agencies, regional EPA officials, ESCOs, and other stakeholders to develop a consensus approach on EM&V, energy savings to CO₂ conversions, potential registry for tracking of "efficiency credits," and other key issues related to ESPC projects in the context of EPA's 111(d) proposal. (Midway in the project, On Feb. 9, 2016, the U.S. Supreme Court [granted a stay](#), halting implementation of the EPA's Clean Power Plan pending the resolution of legal challenges to the program in court.)
2. Pilot appropriate ESPC tracking and accounting platforms, including state-specific systems and the eProject Builder (ePB) database, and determine other appropriate structures (potentially a "registry") to track, validate, and potentially trade units of energy savings and related units of avoided pollution emissions from ESPC projects, including for use in state 111(d) compliance plans.
3. Document and standardize the processes and approach for adoption by other statewide ESPC and public, federal, or commercial facility retrofit programs and conduct national and regional outreach on project results.

To meet these strategic goals, the project states established the following objectives:

- (a) Develop a consensus approach on EM&V, energy savings to CO₂ conversions, and other key issues related to ESPC projects in the context of EPA's 111(d) proposal.
- (b) Research a shared tracking system suitable for use under a voluntary registry for purposes of capturing CO₂ credits (or credit for early action). Such a system would be an important learning tool for the states and would send a valuable message to state policy makers about the ability to meet clean air requirements in an economically sustainable manner.

- (c) Provide a means for State Energy Offices, environmental agencies, and utility commissions to potentially integrate energy savings and emissions reductions from both non-ratepayer and ratepayer funded efficiency programs in 111(d) compliance plans.
- (d) Set the stage for greater uniformity in EM&V for ESPC projects from state-to-state.
- (e) Conduct state pilots of the eProject Builder database.
- (f) Document and standardize the processes and approach for adoption by other statewide ESPC and public, federal, or commercial facility retrofit programs.

The strategic approach to the project was a three-state coordination of efforts that brought together state, regional, and national actors to achieve a consensus in EM&V protocols, emissions targets, and tracking systems. The partners represented the hubs of state (state energy and air quality offices, ESCO state organizations), regional (SEEA, plus outreach to regional EPA officials) and national (NAESCO, NASEO) organizations and a consulting firm (CESI) with strong relationships with all of the project partners and recognized expertise in the protocol issues.

The MEASURES project structure was anchored in four components:

- 1) Investigation of best practices for the EM&V protocols, emissions calculations, and tracking systems and presentation of those protocols with options that reflect each state's situation, opportunities, and constraints.
- 2) Collaboration among key state stakeholders, e.g., air agencies, ESCOs, public service commissions., convened by the State Energy Offices, with SEEA assistance in order to seek a consensus approach to integrating ESPC projects into 111(d) state compliance plans.
- 3) Organization of cross-state meetings, led by NASEO, and including all three State Energy Offices, and the most active stakeholders in the three states.
- 4) Production of common protocols and dissemination of the results not only in these states but in appropriate forums and distribution channels nationwide, from conferences to web sites to umbrella association meetings.

The strong preexisting relationships among the partners to this proposal helped facilitate fulfillment of this strategy.

Activities, Accomplishments and Deliverables

In late December 2014 – early January 2015, Virginia DMME staff worked with a DOE project officer to finalize the project's Statement of Program Objectives (SOPO), which is the document that guided work performance during the two-year grant project period. Three major tasks were agreed upon, with subtasks, milestones and deliverables identified for each. Tasks to be performed included:

Task 1.0: Develop consensus approach on Evaluation, Measurement and Verification (EM&V) of ESPC projects and corresponding approach for calculating CO2 emissions reductions (Months 1-15)

Task 2.0: Pilot appropriate ESPC project performance and emissions saving tracking and accounting options, including consideration of the LBNL/DOE eProject Builder (Months 3-20)

Task 3.0: Engage in project coordination, outreach and Implementation Model (IM) development (Months 1-24)

Following are summary descriptions of activities/milestones accomplished and deliverables developed/finalized under each task. Project deliverables that are referenced below and throughout this report can be reviewed or downloaded from the SEEA website:

<http://seealliance.org/initiatives/state-local-utility-policy/emv-approaches-performance-contracting/>

Task 1.0: Develop consensus approach on EM&V

- CESI prepared draft white papers on *EM&V Practices in States under the MEASURES and DOE Accelerator Programs*, and the *AVERT* (Avoided Emissions and generation Tool) method to estimate GHG emission reductions from avoided generation. CESI also reviewed and provided initial comments and suggestions for improving the eProject Builder (ePB) template.
- CESI developed *EM&V questionnaires* that Virginia, Georgia and Kentucky used to engage ESPC stakeholders (e.g., ESCOs, state agencies, local governments) in reviewing the current status of EM&V for ESPC projects. Three distinct surveys (one for each partner state) were sent out to VA, GA and KY ESCOs and state/local agency contacts in May 2015.
- Because of lower-than-expected response rates from the three state survey respondents, follow-up interviews with ESPC staff in VA, GA and KY energy offices were conducted to fill information gaps and discuss lessons learned.
- On a separate, parallel track, CESI developed a draft Cross-State EM&V Report focused on a consensus approach for application of IPMVP and descriptions of strategies the states could implement to address gaps in how IPMVP is applied to public or non-public building ESPC projects. Additional data gleaned from those interviews were included in three single-state briefing papers that eventually became chapters in the Cross-State Report. The Report included four sets of standards to be considered re: potential compliance with Clean Power Plan (CPP) air quality requirements (metrics and reporting; measures/verification of savings; data gathering/reporting; and requirements, practices and policies needed to establish EM&V confidence. The *Cross-State EM&V Final Report* was finalized and delivered to DOE in October 2015.
- CESI began work on the *Emissions Reduction Calculation Roadmap* which focused on how to translate energy savings from ESPC projects (calculated from the consensus application of IPMVP) into emissions reduction calculations for use in state CPP Section 111(d) compliance plans. After review by the project team, this deliverable was finalized and shared with DOE in December 2015.
- Another survey was prepared in April 2016 to provide both pertinent information to Task 1 milestone requirements and work, and to provide input to DOE's LBNL on enhancing the usability of eProject Builder (ePB). The survey covered ESPC policies and practices; ESPC EM&V practices and requirements/options; and tracking and ePB. The responses showed points of commonalities and divergences between the three partner states on these topics. The MEASURES *Team's Suggested Enhancements of eProject Builder* memo was sent to LBNL in September 2016.

Task 2.0: Pilot appropriate ESPC project performance and emissions savings tracking and accounting options, including consideration of the DOE/LBNL eProject Builder

- Virginia ESPC staff began entering legacy ESPC data in eProject Builder in early 2015, and found that data entry was very time intensive with over 100 data fields plus EM&V data to complete. Most ESCOs had established processes and tools and were reluctant to use the federal system.

However, project participants realized that one way to assure data entry compliance is for states to require the use of ePB tracking in their ESPC contracts. ePB is currently voluntary in Virginia, but DMME is committed to making this practice mandatory in the next statewide ESPC contract renewal in early 2017. DOE offered ePB training webinars and customized training beginning in July 2015 for states. Virginia ESCOs have taken the ePB training. Webinars have been archived on-line by DOE here: <https://eprojectbuilder.lbl.gov/home/#/help>

- *A summary of project partner email correspondence with LBNL* re: the status, use and continuing development of ePB were shared with DOE staff in February 2016. In further dialogues, LBNL staff solicited additional state feedback on potential improvements to ePB features, discussed a new template being developed and a new M&V module to be available for piloting (perhaps by Virginia), agreed to include the MEASURES Cross-State EM&V Report and Emissions Roadmap documents in an upcoming LBNL report, and offered to continue communications with the project team on proposed ePB enhancements. Virginia distributed the ePB data entry template to its ESCOs with a request to starting entering data themselves into the system.
- State partners continued discussions with LBNL staff during Spring 2016 which focused on entering legacy data into ePB, describing technical support available from LBNL, and suggesting ideas to incorporate into the tracking system. The MEASURES *Team's Suggested Enhancements of eProject Builder* was formally transmitted to LBNL in September 2016 relaying the MEASURES team's suggested advances to ePB.
- The M&V module is operational, but state projects first need to be in ePB in final approved state before the M&V function becomes available. M&V data is entered via the online interface only. LBNL staff also offered to schedule M&V training for the project team via webinar.
- A draft registry report was developed by MEASURES grant partners in 2015 (which was not formally distributed at the time), but it needed significant updating since the group's EM&V consensus has evolved, the Final Rule differed in significant ways regarding EM&V and conversion of savings to CO2 and the CPP was stayed by the Supreme Court. A reworked *Registry of Energy Savings from Energy Efficiency Program and Practices* report was prepared that presents information on measurement, verification and conversion; models for computing emissions reductions; registry design; crucial design components for a state registry; and conclusions/next steps. This document was finalized and delivered to DOE in December 2016.
- Another web-based platform being developed by Tennessee and other state partners under a separate SEP competitive grant is the National Energy Efficiency Registry (NEER). Once developed and projected to be available for use by 2018, this registry will allow states to transparently track energy efficiency data. Savings will be able to be attributed to specific upgrades, EE program results can be aggregated, and project outcomes and tracking will be standardized
- Discussions in mid-2016 focused on whether to coordinate more with the NEER project to determine how the eProject Builder tool can fit into the NEER national registry being developed, instead of the MEASURES group making recommendations for establishing another registry. The group concluded that the *MEASURES team should collaborate with the NEER team and ePB/LBNL* "to ensure that a consistent, valid, project database is established and that NEER moves forward to become the national database necessary to monetize the ERCs generated by ESPC work in the MEASURES states and other states" across the country. MEASURES grant partners Georgia and NASEO are participating in the NEER project and will provide a valuable linkage as the NEER project continues. DOE staff supported this redirection of the MEASURES team's Task 2.0 efforts.

- The project team proposed in mid-2016 two *project enhancements* accepted by DOE that more fully engaged all grant partners and strengthened the project’s findings and impact:
 - Extend the original three-state ESPC survey/questionnaire to several additional states (e.g., ESPC Accelerator states) and U.S. DOE Federal Energy Management Program (FEMP) to obtain additional information on ESPC practices and approaches, with a focus on EM&V and project tracking; explore and understand the pros/cons of those approaches/practices; identify high-level recommended or model practices; compare findings from states with those practices which can be used by other states in considering options for enhancing their ESPC programs (CESI/NASEO lead)
 - Expand training and outreach consistent with the MEASURES project’s objectives (SEEA lead)
- The enhanced survey collected responses from State Energy Offices in the states of Alabama, Colorado, Hawaii, and Massachusetts, as well as (FEMP and the three MEASURES partner states). The enhancement survey results confirmed earlier MEASURES program results indicating wide variation in state ESPC tracking and reporting requirements and practices, ESPC project M&V requirements, State Energy Office/other state administrative body authority over state agency and locality ESPCs, technical assistance offered, and resource/expertise availability. Results of the enhancement survey have been reported in a document entitled *Recommended ESPC M&V Principles Development*, which includes annotated M&V principles and conclusions, and appendices highlighting the MEASURES project M&V principles, MEASURES questionnaire, and MEASURES questionnaire responses. This report was submitted to DOE in December 2016.

Task 3.0: Engage in project coordination, outreach and Implementation Model (IM) development

- DMME staff worked with project partners to negotiate grant sub-contracts with DMME, and all contracts were fully executed and in place by mid-March 2015.
- The DOE State Energy Program (SEP) Competitive Awards “Kick-Off Event” was held February 3, 2015 in Washington, D.C. in conjunction with the 2015 NASEO Energy Policy Outlook Conference. VA, GA and KY state energy officials partnering on this project attended this session, where DOE staff provided an overview of the various state projects that received funding, and answered recipient questions about the projects.
- NASEO received input from project partners on the agenda for the Mid-Atlantic regional meeting that was held June 22, 2015 in Williamsburg, VA. Meeting discussions centered on similarities and differences among the three states’ ESPC programs, initial results from the EM&V questionnaire and options to collect additional data, eProject Building data entry compliance and training options, and the draft white papers developed on AVERT and EM&V practices.
- The ESC Conference, held in Charlotte, NC, featured a session on September 2, 2015 titled “State Showcase – What Does Success Look Like” which featured three project partner speakers, from CESI, Georgia and Kentucky.
- An EM&V session was held at the DOE Better Buildings Summit in Washington, DC on May 10, 2016 in which some project team members participated.
- An August 4, 2016 webinar hosted by SEEA featured project team members discussing the EM&V project progress to date.

- An EM&V session was held during the NASEO Annual Meeting in Providence, RI on September 11-14, 2016, and NEER also held a project/stakeholder meeting which focused on the proposed NEER structure and draft rules. Project team members participated in both events.
- Team partner SEEA collaborated with DOE/NASEO/TN/GA/Climate Registry/E4the Future on a November 10, 2016 webinar discussing the National Energy Efficiency Registry. Team members also participated in a DOE/LBNL-sponsored webinar series on EM&V issues held during 2016.
- At the NAESCO November 2016 Board of Directors meeting, the Draft MEASURES Project M&V Principles prepared by the project team were presented for endorsement and subsequent use by its member companies. NAESCO's Board decided to form a working group to further discuss the project's recommended ESPC EM&V principles and conclusions.
- Grant team partners developed the MEASURES Project Implementation Model (IM) goal, barrier and solution for evaluating opportunities for standardizing M&V practices and participating in DOE's eProject Builder energy savings data tracking system. Several iterations of the IM were drafted and shared with other team members and DOE to discuss and refine during Year 2 of the project. The IM ultimately encapsulated the goal, barrier, solution and outcome re: M&V practices standardization and use of eProject Builder, and provided transferability of lessons learned to other states.

SEEA prepared a layout for a MEASURES project webpage to be hosted by SEEA that includes a project overview, and a project achievements and status section that can be modified by other project team partners for their own webpages. Project deliverables can be reviewed or downloaded from the SEEA website:

<http://seealliance.org/initiatives/state-local-utility-policy/emv-approaches-performance-contracting/>

Lessons Learned

1. *Importance of measuring, verifying, and registering savings.* The Team found general agreement that M&V of ESPC results is actually increasing in importance, as government and commercial customers look increasingly for evidence that promised "savings" are real and that the cost of a savings guarantee and post-installation M&V are prudent investments. Besides state agencies, this opinion was shared among regulators, customers, and industry representatives. The most recent LBNL/NAESCO survey of ESPC markets documents a leveling of the historical growth of the ESCO industry, suggesting that such verified savings may not be driving the growth and new market penetration as successfully as in past years. The report notes "increased competition from companies that do not meet our definition of an ESCO," as well as a decline in the eight largest ESCOs' market share, compared to smaller ESCOs. These trends are attributable to many factors, as discussed in the report. Among those factors may be declining confidence in the reality of savings, declining need to prove savings, or declining reliance on ESCO financing and performance guarantees, in ESPC procurements. This suggests that a robust, transparent, widely shared definition and use of savings measurement and verification may be instrumental in supporting the continued growth of ESPC market penetration.
2. *States not monolithic.* Even in a process as focused as standardizing ESPC M&V practice among state agencies, approval authority is dispersed and many opinions and limitations must be considered. The partner states were represented in this project by their respective Energy Offices, which have partial, differing, and incomplete authority to set state ESPC policy. Each

partner state is bound by specific practices and procedures articulated in statute and regulation, which vary from state to state. These policy differences make it difficult for the partner states to easily agree on solutions to overcoming EM&V consistency barriers. Especially in Kentucky and Virginia, where ESPC programs are further developed, programs rely on policies and practices established over years of ESPC implementation. As a result, changes to ESPC policies will likely require extensive time and effort and, potentially, new legislation. States that are relatively new to ESPC may have more flexibility to establish new laws, regulations, and processes, as well as the ability to consider lessons and recommendations from more experienced states.

3. *Interdisciplinary team important.* Despite the difficulty of reaching inter-state consensus on a single protocol and its universal application, the MEASURES Team could gather and process a wide diversity of viewpoints and distill some key principles to be recommended broadly. This was enabled by the representation of the industry (NAESCO), colleagues in other states (via NASEO survey), and technical experts with inter-state experience (EERE, LBNL, FEMP, SEEA, CESI, NACAA).
4. *National vs. local Registry and data base.* Besides measuring and verifying savings, the partner states found that documenting impacts (savings and emission reductions) would be of continuing value. The use of e PB was adopted by two of the three states, and all found the evolution of a national EE Registry (NEER) to be of potential value.
5. *Contributions to e PB.* Over the course of the project, many suggestions for e PB design could be derived from its use in practice, leading to improvements recommended by the MEASURES Team and adopted by LBNL.
6. *Conversion of savings to emission reductions.* Although the original need to comply with national policy was obviated by events, a “roadmap” could be developed and approved by the Team for conversion of energy savings into reduced carbon dioxide (and potentially other pollutants) emissions. This was found to be valid among those interested in air quality management, irrespective of national requirements.
7. *Limitations of survey instruments in determining consensus.* The initial states survey took much more effort than anticipated and richer understanding was gained from interviewing a few knowledgeable people as compared to a questionnaire answered by relatively few agencies and ESCOs. Surveys can provide valuable information but may require more time and effort than initially estimated and may yield less insight than desired. Project teams should seek facilitation of contacts with survey targets (e.g., agency or industry associations introducing the project rather than “cold call” solicitation) and allow for follow-up efforts. They should consider performing detailed interviews of experts as a supplement or alternative to a wider survey instrument. Teams should consider having a “Plan B” in case survey participation and results are disappointing. Surveys, questionnaires, and other inquiries should allow for iteration, improvement, and follow-up. For example, piloting a survey may allow wording of questions to be improved to reduce misinterpretation or to obtain more cogent information. Follow-up with respondents can clarify ambiguous or misinterpreted responses, or elicit more information and greater insight.
8. *States vary greatly in interagency relationships and collaborative abilities.* Projects requiring input or participation from multiple state agencies (particularly agencies not directly partnered

in the project) should make requisite allowances (for more time and effort needed and possibly for less data and insight from sister agencies).

9. *The relationship between state agencies and local governments and other public authorities vary significantly.* State agencies may or may not have authority or purview over processes and practices of local government bodies (or other entities such as public colleges and universities and quasi-public authorities). Thus, their ability to obtain data and input from localities or to influence local (or other authorities') policies and practices can be very limited or even absent.
10. *While a project may include a wide scope of interests, individual agencies may interpret their purview narrowly or broadly.* For instance, for ESPCs, some agencies focus almost exclusively on financial parameters, neglecting to seek energy unit savings data even though they have had means to do so (and those energy units savings are the basis of the financial performance that is tracked). Project teams should not assume availability of data that one may think should be readily available nor should they assume that agencies' personnel recognize or concern themselves with broader aspects of their programs.
11. *State agencies have varied and often split authorities over policies, practices, and procedures for ESPCs (and other programs).* SEP project findings and recommendations can provide valuable input to states but partner agencies may not be able to implement recommendations. Multiple agencies' authorities may be affected and legislation may be required to effect some recommendations.
12. *Existing or legacy practices, processes, and tools are hard to supplant or supplement even if newer approaches or tools appear to offer greater benefits.* Agencies vested in using existing databases, tools, and processes can be reluctant to modify approaches due to perceived effort required (both by agencies and other stakeholders (such as ESCOs)) relative to asserted benefits. (For example, some states with existing ESPC tracking databases indicate little or no interest in adopting eProject Builder.)
13. *Approaches and tools used or promoted at the federal level may not be (or may not be perceived to be) well suited to state and local contexts.* (For example, some states perceived eProjectBuilder to be designed for federal circumstances and not well suited for states.)

Next Steps

1. A report on "Recommended ESPC M&V Principles Development" was drawn from the MEASURES investigations and collaboration, and posted on the SEEA website. The principles have been presented to the NAESCO Board, which has established an M&V Committee to review and potentially update M&V practice guidelines in cooperation with State Energy Offices and NASEO, with DOE input.
2. The NEER project continues under separate DOE funding and will be monitored by the MEASURES Team for potential collaboration.
3. Continued evolution of the e PB platform, including its M&V capability, will also be monitored and adopted as appropriate.
4. Next Steps by State:

Virginia

This project occurred at an opportune time for Virginia to benefit from lessons learned and to apply that knowledge to make significant improvements in the Commonwealth's mature ESPC program for public bodies. The Department of Mines, Minerals and Energy (DMME) will work with the Department of General Services to revise and renew the statewide ESPC contract in Q2-2017 to include the following improvements gleaned from the MEASURES project:

- Energy Services Companies will be required to use the U.S. Department of Energy's eProject Builder (ePB) as the repository of ESPC project data, including annual Measurement and Verification (M&V) data, for ESPC projects performed under the statewide contract.
- DMME will encourage and will consider a requirement for ESCOs to follow FEMP M&V Guidelines v4.0 and its template for annual M&V reporting.
- Users of the ESPC contract will be required to use DMME or another third party to review annual M&V reports and to attend annual reconciliation meetings where savings data are reviewed and verified. Requirements for the duration of annual M&V, now established as not less than three years, will be reviewed for possible revision.

Also, DMME will:

- Educate and train state agencies and local governments on ESPC EM&V protocols and practices.
- Continue to engage with LBNL and DOE to advance the MEASURES goal to "develop a consistent, widely replicable process for gathering ESPC results, measuring and verifying their savings with stakeholders, and entering the data in a respected database."
- Integrate a state agency Energy Management Information System that currently is in development with the statewide ESPC program.

Georgia

For Georgia, it was beneficial to participate in the MEASURES project because its performance contracting program is new and the MEASURES process allowed for review of best practices among states and see how they compare. It helped validate that many program rules, such as requiring M&V for the life of the contract, compare favorably to industry best practices.

Georgia spent a significant amount of time working with eProject Builder and was able to upload all of the state agency projects to the site. After testing, it has been determined that eProject Builder offers real value. Georgia is not sure if eProject Builder will be required for state projects yet, but it is something under consideration. However, Georgia will not be able to require eProject Builder for local governments since the state has no real authority over these projects.

The "MEASURES Project M&V Principles" provides Georgia with a sound set of best practices that can be shared with industry partners and agencies/project owners.

- GEFA will continue to engage with LBNL and DOE to continue to advance the MEASURES goal to "develop a consistent, widely replicable process for gathering ESPC results, measuring and verifying their savings with stakeholders, and entering the data in a respected database."

- GEFA will consider modifying the state contract to require ESCO's and state agencies use ePB for all future projects.
- While GEFA does not have oversight of local government ESPCs, GEFA will continue to find ways to engage local governments and educate them about performance contracting best practices, including M&V.
- GEFA will continue to collect and review all state agency annual M&V reports as well as submit an annual performance contracting program report to the Georgia State Finance and Investment Commission.

Kentucky

In Kentucky, energy savings performance contracting is something of a distributed affair, with different sectors being overseen by different entities. For example, the Kentucky Finance and Administration Cabinet (FAC) is responsible for facility management and procurement relative to performance contracting for state facilities; the Kentucky Department of Education provides oversight for K-12 ESPC construction projects, but has no approval authority over ESPCs per se; while local governments are independent local entities, the Department for Local Government operates an owner-advocate technical assistance program for cities and counties considering EPSCs – but, again, has no direct authority over projects or procurement process; and public hospitals and universities handle their own projects. For almost all of these entities, there is no need to track projects since they may only do one EPSC in 10-20 years, meaning that ePB does not provide any appreciable tracking or project management value.

However, given the number of ESPC projects done by the state each year, DEDI determined that the FAC stood to potentially benefit from the utilization of ePB. As a part of the MEASURES project, Kentucky invested time in testing ePB to ensure DEDI understood the data entry process, functionality, reporting capabilities, etc. to be able to understand the system and be able to explain it to FAC. After some preliminary discussion, it was learned FAC already has a simple MS Access database tracking system. This database tracks project name, location, contract information such as costs, dates, etc., and other administrative information; it does not, however, track any information about ECMs, M&V, or energy savings. After a period of testing and evaluation by DEDI, it was determined that ePB was not going to provide value to FAC and they will continue to use their current system.

Conclusion

There are sound reasons for measuring, verifying, and registering the impacts of energy-saving performance contracts. By focusing on these values, the difficulties of agreeing on precise language and complying with changing policies can be overcome.

Although the many limitations and viewpoints of stakeholders interested in M&V made it difficult to reach consensus on detailed standards, it was possible to agree on (a) the importance of M&V to all and (b) some specific principles for its application.

Although the changing policy landscape made it difficult to reach consensus on converting savings to emission-reduction targets, it was possible to publish a “roadmap” for quantifying those reductions, of value to those concerned with air quality.

Although a registry of ESPC impacts was not practical to establish at the state or regional level, it was possible to agree on many potential values of participating in (a) “eProjectBuilder” and (b) a national EE Registry (“NEER”), both of which are evolving to the satisfaction of the MEASURES Team.

The MEASURES Team members have therefore collaborated on a Solution Summary (“implementation model”) report and the series of reports described herein, with confidence in the importance of the findings for future measurement, verification, and registration of EE savings.